2008-06-00

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Homeland Security Affairs (June 2008), v.4 no. 2

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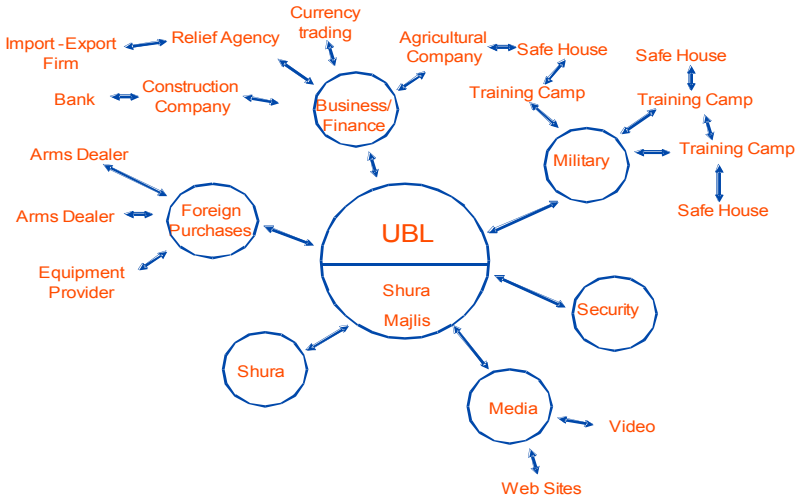
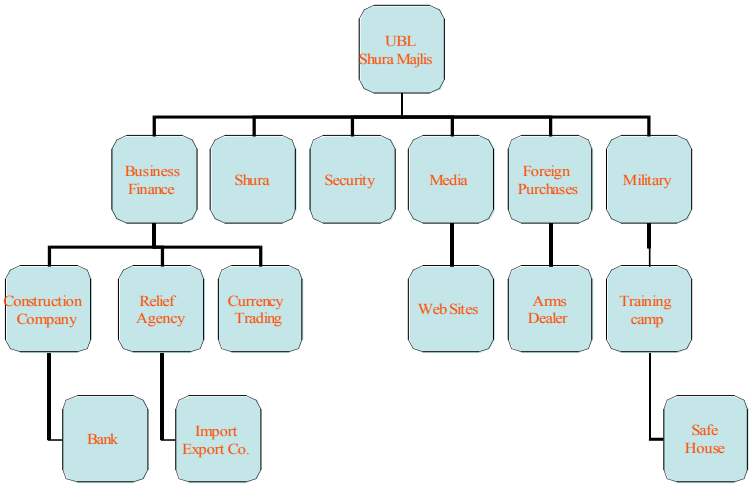
In an interesting account of drug trafficking and terrorist networks, an author depicts al Qaeda prior to 9/11 with the following graphic.[1]



This is a network, a set of nodes and the links between them. Osama bin Laden was not the only decision maker, the only one with authority in the organization. Far-flung elements made decisions and carried out operations as seemed best to them. As the author's description unfolds, however, it becomes clear that one could as easily depict al Qaeda prior to 9/11 in another way.



This is a hierarchy. As the report of the 9/11 commission makes clear, even though the structure of al Qaeda before the 9/11 attacks was not rigid, and lines of command and control not always simple and clear, not all the nodes in al Qaeda were equal in authority.[2] Some individuals in the organization had more authority than others and were "higher," so to speak, in the organizational chart than others.

Was al Qaeda a network or a hierarchy? Is it now a leaderless jihad?[3] Actually, these questions do not matter. The most important issue for an organization or those fighting it is not what structure it has. The most important issue is how well an organization's structure is adapted to its environment, which includes what its enemies are doing, given what the organization wants to achieve and the resources available to it. No one organizational structure is always inherently superior to another. Some are better for some things, some for others. These principles apply to al Qaeda as well as the governmental network (the federal, state, and local governments) in the United States. Hence, if we examine two contending organizations in their environments, we may be able to discern optimal strategies for these organizations. With regard to the United States, the optimal strategy turns out to be the opposite of what is or has been commonly recommended. Once we understand the relative strengths and weaknesses of networks and hierarchies, particularly the foreign and domestic militant Islamic networks that we confront, we see that it does not take a network to fight a terrorist network and that it is not very helpful to emphasize the killing and capturing of high-value terrorist targets. Instead, we see that we should deemphasize the direct fight against these networks and put more emphasis on countering the proliferation of weapons of mass destruction.

To see this in detail, we will consider first some basic differences among organizations and the strengths and weaknesses of two different organizational forms (networks and hierarchies); then apply this organizational analysis to terrorist organizations and the governmental network in the United States; and, finally, suggest optimal strategies for countering the terrorist threats we face. The initial discussion of organizational forms will be somewhat simplified (e.g., it assumes a clear distinction between networks and hierarchies that is ultimately untenable) in order to emphasize certain organizational characteristics or tendencies.

DIFFERENCES AMONG ORGANIZATIONS

One way to understand the differences among organizations is to focus on two key variables: frequency of personal contact and the location of authority. In a market, individuals deal with each other once or infrequently and authority has no location. The price mechanism structures the market, not any authority separate from the price mechanism. Individuals can have recurring contact in a market but in that case what tends to develop is a network. A contractor might conclude that it is more efficient to deal with one or two carpenters, for example. Both the contractor and the carpenters benefit from this arrangement. Price is still important but a personal connection and some degree of trust also keeps the network together. The contractor has ultimate responsibility for how the work is done, and to discharge that responsibility will tell the carpenters what needs to be

done, but he trusts them and cedes some authority to them to get the work done right and even to suggest better ways to do it based on their expertise. All participants in this construction network share some authority and control over their relationships. If for some reason the general contractor thinks he needs more authority over the carpenters and other skilled personnel he needs to complete his projects (when the number or the complexity of the projects increases, for example), he might hire them permanently. A company would then have formed. The general contractor would become the boss and the others would work for him. The boss' contact with his employees would be recurring but authority would more clearly reside in him. Trust might well diminish, especially if the company is large, because the boss will not know the individuals who are actually doing the work as well as the contractor in the network example did. The network would have become a hierarchy.[4]

What distinguishes both a network and a hierarchy from a market is that in the network contact among the members is recurring. What distinguishes a network from a hierarchy is that in the latter the recurring contacts take place within a framework of legitimate or accepted authority. In a hierarchy, information flows up from the bottom and decisions and information flow down from the top. Rank and authority go together; the higher one's rank in the organization, the more authority one has. Forms of authority other than those derived from rank exist in a hierarchy, such as authority based on technical expertise, but rank can and may trump these other kinds of authority; in a hierarchy, rank confers ultimate authority. Rules and regulations express that authority. Those lower in the hierarchy have less say in making the rules and regulations, but are bound by them and therefore have less autonomy and less room to exercise initiative than those above them. The lower in the hierarchy one is, the more restricted and specialized is one's task, typically. This division of labor, supervised at each level, and denial of initiative means that trust is not very important in a hierarchical organization. Each level knows what those below are supposed to do (this is often specified in writing) and works to see that it gets done. No one relies on trust alone to see that those below them in the hierarchy do their jobs.

The hierarchical structure presented (perhaps caricatured) here offers advantages and disadvantages.[5] It is a good way to organize a mass of poorly educated workers, for example. They do not have the knowledge or the skills to be trusted to operate efficiently or effectively on their own, so they need to learn to do simple tasks and be carefully supervised to see that they do them. In this setting, there is accountability. The boss at the top can find out what each of his workers or production lines has produced and, if it is not producing enough, knows exactly whom to blame. Such a structure allows for fast and efficient implementation of decisions, once they are made at the top. The boss and every supervisor below the boss have the authority to impose change on every member of the organization. In the context of the U.S. government, a hierarchical military structure was a good way to organize a mass of poorly educated soldiers into an effective fighting force. Especially within its tradition of attrition warfare, in which it sought to apply uniformly the greatest possible degree of firepower to overwhelm its opponents,[6] the U.S. military found a highly developed hierarchical structure congenial. In the bureaucracy, the accountability of

hierarchy is also a great boon for those who care about the rule of law. Those who represent us in the legislature and wield our power and implement it through the bureaucracy can in principle find out exactly who made which decisions and who wrote which memos.

Balancing the advantages of the hierarchy are certain disadvantages. It may be that implementation of decisions can happen quickly in a bureaucracy once the decisions are made but it is also true that the information needed to make those decisions may flow to the decision makers slowly because it must go through so many levels. Not only do the levels slow information transfer and, ultimately, decision making, but they may well distort it. Even inadvertently, as information passes through many hands, it changes, much as the message that begins the children's game of "telephone" emerges garbled at the end of the line of children who have transmitted it. But there may also be malicious distortion. Each level in a bureaucracy may have its own interests. Refracted through those interests as it moves along, information may arrive at the top both too slowly and as a distorted image.

Whether the various advantages and disadvantages of hierarchies predominate depends on the environment in which the hierarchies must survive. As suggested above, in the nineteenth and early twentieth-centuries, hierarchically organized factories and armies may well have been the best way to take advantage of masses of relatively uneducated workers and conscripts. As the education and capabilities of workers and conscripts or volunteers improve, that may no longer be the case, at least to the same degree. The relative advantages and disadvantages of organizational forms is not just a question of the time in which they operate, however. For example, firms that operate internationally may profit from a different form of organization. In this case, a head office could not know what would work best in a variety of different countries around the world, so it would make sense to send its authority down and out to branches operating overseas. This flattening of authority was made possible by improved communication and information technology that lowered the cost of doing business even over vast distances. This flattening also gives more autonomy to lower levels and thus requires that a certain amount of trust move down and out as well.

Compared to the strict hierarchical model, the flattened structure described above should see an increase in the speed with which information moves to the decision-making level (because the decision-making level has moved lower) and less distortion of information (because it travels through fewer levels to reach decision makers and, in this case, fewer cultural filters). The result should be faster and more accurately informed decision making. In the context of the U.S. military, one might think of the regional commands as an example of this flattened hierarchy. Within at least one of these commands this flattening has led to experiments with additional flattening.[7] Certain disadvantages balance the advantages of the flattened structure, however. First, faster, better-informed decision making may not necessarily be better decision making. Faster decision making may mean in some cases that bad decisions are made faster. Furthermore, the original or central hierarchy loses some control over the components to which it has distributed authority. The loss of control means that

there may also be an increase in the difficulty of implementing any decisions that the center arrives at. For example, the Pentagon gave the Special Operations Command authority over the global war on terrorism but the regional commands resisted.[8] Finally, from the viewpoint of the center, there will be less accountability or a decreased ability to identify who exactly is responsible for which decisions. All of this is the consequence of delegating authority down and out from a central hierarchy.

If the workers involved in an activity are well-educated and what they must do cannot be reduced to simplified tasks performed repetitively but requires initiative and creativity, then a further flattening may be necessary to gain the full value of their work. Ultimately, the flattening may continue until it reaches what was described above as a network, a set of recurring interactions without any legitimate or accepted central authority controlling or directing them. The members of such an organization might be linked by nothing more than a common purpose and, implicitly at least, a good deal of trust that each is serving that common purpose. As noted, such an organization would be well suited to take advantage of highly skilled, motivated members. In such an organization, given the absence of layers between actors, information should flow as freely as it can and with as little distortion as possible. This should make the network highly responsive and adaptive to its surroundings. It should also be resilient, since if one node runs into trouble, others can carry on. An example of such a network would be the International Campaign to Ban Landmines, which started with six non-governmental organizations united by the common purpose of banning land mines and grew to include numerous organizations sharing that purpose. With no central authority dictating how members of the coalition should act, the Campaign managed within five years to get a treaty banning land mines signed by 122 nations,[9] out-maneuvering the traditional hierarchical bureaucracies that opposed it.

The network form does have disadvantages, however. It has no formal control over its members, although peer pressure might operate. The trust it relies on might well be misplaced. If the activity one is involved in requires centralized control, managing military fire support, for example,[10] or the flow of resources to a disaster area, then decentralized authority is not best. In networks, there is also less accountability. This is not to say that in hierarchies there is always accountability. But the failures in accountability that we see in hierarchies are precisely that, failures. Accountability is inherent in a hierarchy and when it does not occur, whether negligently or intentionally, it is a failure. A network is defined in a sense as an organization in which no one has the authority to hold someone else accountable. Individuals or nodes in a network may in fact hold someone accountable ("I won't get that jerk to do my wiring again," says the disgruntled contractor) but that is a personal not an organizational decision. Over time in a network, the individual decisions of practitioners when communicated among members may begin to coalesce into an accepted set of standards of conduct, supported by peer pressure. The next step is that the network or community establishes mechanisms to enforce these standards. At this point, there is organizational accountability and some form of hierarchical relationship among the members of the organization or community.

We may summarize the different advantages and disadvantages of hierarchies and networks as follows. Hierarchies, or more exactly organizations with centralized control, provide accountability and can enforce standards. They also can implement decisions more quickly and efficiently than networks, or organizations without centralized control, but they may make those decisions more slowly than the speed at which their environment is changing, since information must travel through many layers to get to decision makers. In addition, the information may be distorted when it arrives. This means organizations with centralized authority may not be as responsive and adaptable as they need to be given the changes occurring in their environment. This means in turn that they face the long-term risk of extinction. Also, a centralized organization may not be very resilient. If the center suffers catastrophic failure, the whole organization is at risk. Networks, on the other hand, respond more quickly to their environments because every node is in effect a sensor *and* a decider. Information does not have to go anywhere to be effective. It is also the case that as information from all the sensor-decider nodes travels through the network, the members in effect get to sample various ways of adapting to the environment, which increases the adaptability of the network over time. As nodes communicate, they get to see what works and what does not, which allows the nodes and ultimately the network to deal with mistakes and distorted information in a way that is more efficient and effective than the way that a hierarchy does. Decentralized organizations are also more resilient. If one node fails, the whole network does not fail. But the lack of centralized control over members of the network means that what the network does in toto (the sum of the actions of the individual nodes) is unpredictable. This generates the risk that in the short-term individual nodes will do something that adversely affects the whole network. This means that network organizations suffer from short-term risks, even as their adaptability lowers their long-term risk. Finally, networks make accountability more difficult, since authority is diffuse and control limited or non-existent.

In addition to noting that different kinds of organizations offer different advantages and disadvantages and are more or less suited to different kinds of tasks in different kinds of environments, we should note that the stark categories of "centralized" or "decentralized" are too rigid for what we encounter in the world. Organizations are some blend of centralization and decentralization. Hierarchies have networks in them, either formal (e.g., interagency coordinating groups) or informal (e.g., those who served on the president's or governor's campaign). And most networks contain at least informal authority hierarchies. In the campaign to ban landmines, the original NGOs and a few individuals (either because of their experience or personal characteristics) had more authority as a matter of fact than other NGOs or individuals. One analysis of decentralized organizations offers Hezbollah as an example of such organizations, saying of it that "although the formal structure is highly bureaucratic, interactions among the members are volatile and do not follow rigid lines of control."[11] This remark shows the blend of centralism and decentralism that exists in organizations. Since the remark could equally apply to the U.S. federal bureaucracy, it also reminds us that structures that are reputed to

be quite different (a hierarchical bureaucracy and a networked terrorist organization) may in fact not be completely dissimilar, a point to which we will return. All of this supports the contention that the important issue is not whether an organization is a hierarchy or centralized, or a network or decentralized, but how well its structure is adapted to the activities the organization carries out and the environment in which it carries them out.

TERRORISM AND NETWORKS

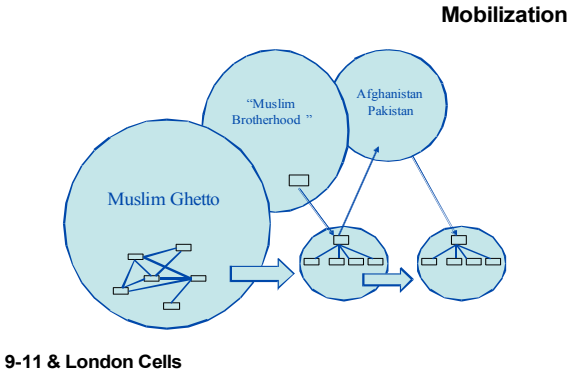
How do these distinctions among organizations apply to terrorists? To see how they do, we should start with an account of how someone becomes a terrorist that ignores the organizational distinctions. This account puts the emphasis on an individual: if one has a grievance, one must decide what to do about it. If the costs of correcting the problem are greater than the costs imposed by the problem, then one might decide to do nothing. In a totalitarian state, this is the common calculation. But if it appears that something can be done at a cost that is less than the cost imposed by the problem, then one must decide what to do. Perhaps the most important choice is whether to seek redress through peaceful or violent means. The peaceful path leads to some sort of overt activity, participation in a political party or a demonstration perhaps. One might be arrested at the demonstration or simply go home after it. In either case, one is back where one started. One might well continue on this peaceful path – a repeating cycle of protest, arrest, and release, for example – especially if it seemed to be doing some good. But one might also decide that peaceful protest is insufficient. The alternative – violent resistance – obviously has higher costs, not just arrest but perhaps imprisonment or even death. Given that the possibility of successfully redressing grievances through violence is so remote (in the beginning, those using violence are few and weak, their opponents many and strong), why would anyone choose this path?

The overwhelming evidence is that the choice for violence or the life of a terrorist is not made typically in the individualistic way in which we have just presented it. The choice occurs in the context or with the help of networks of relationships. For example, the anti-war movement in the United States in the 1960s and 1970s was a network of individuals and organizations, the vast majority of which believed in working peacefully within the system, as the saying was then. A small number of those involved in the anti-war movement separated themselves into the Students for a Democratic Society, which had a more militant approach. From this group there eventually emerged the violent clandestine group known as the Weathermen. A similar movement can be seen from animal rights supporters, to an organization like People for the Ethical Treatment of Animals (PETA), and on to the violent Animal Liberation Front. Another example would be the movement of Ayman al-Zawahiri, typically described as al Qaeda's number two, from the *umma*, or Islamic community of Egypt, through the Mulsim Brotherhood, to Egyptian Islamic Jihad, a terrorist organization, and on to al Qaeda.

The same process is evident in groups like those that carried out the 9/11 and London attacks or have plotted to carry out similar attacks in the United States. Typically, there is a group of people who are already friends, or friends of friends,

who share an interest in Islam. They discuss their evolving beliefs and encourage each other. At some point, they might come into contact with an authoritative teacher, who furthers their movement toward militant Islam. Also, one individual within the group might emerge as its leader, as the one most interested in taking action. He might, with or without the assistance of the spiritual advisor, arrange to travel to Afghanistan or Pakistan for some training. As their religious thought becomes more radical and their plans mature, the group may take on the vague shape of an organization, with some members being responsible for raising money, while others, perhaps with background information acquired in university chemistry courses, develop skills at bomb making, all under the guidance of the operational and spiritual leaders.

We can depict the process as follows.



The groups that carry out the attack arise within the world of expatriate Islam, which forms a ghetto in a cultural, if not a geographic sense, drawing in converts, who sometimes turn out to be the most committed to the militant cause. Not only does the small group encourage each of its members in the process of radicalization, but the small group draws support from the networks of religious groups and brotherhoods that operate within the Islamic world. Finally, as the group comes closer and closer to a willingness to use violence, it may find operational support in the network of militants that can transport people from Europe to South Asia and back again.[12]

In the cases we have just briefly considered, networks of relationships aided the mobilization and recruitment process. The array of pre-existing social networks involved in this process include family (or kin and tribe), ethnic group, religious organization, occupation, education and residence.[13] These threads, knitted together through daily life, create a dense fabric that at each step supports the mobilization process. With regard to small groups, by and large there are two types of explanations for how this support works, one psychological, the other sociological. Psychologists have documented what they call group extremity shift or the tendency of a group of people to move toward a more extreme expression of the group's dominant view. Typically, no one in a group wants to be left behind or left out. Even reluctantly, people tend to move with the group. If the group is clandestine and at danger from the authorities, appearing to be the laggard might even suggest disloyalty. Thus members of a group, particularly members of a

clandestine group, have an incentive not to lag behind and even to prove themselves the most fervent members of the group.[14] A sociologist examining how networks support social movements has identified three ways in which they do this. First, networks perform a socialization function, helping members sort out who they are as they interact with the trusted members of the network. Second, network connections help create opportunities to participate, from the first study group that someone attends, to training in bomb making. Third, network relationships affect calculations of costs and benefits.[15] What another study has called the "social and behavioral dynamics of small groups"[16] make the decision for terrorism – to benefit the group even at one's expense – more plausible than it might be if one were calculating costs and benefits by oneself and only with regard to oneself. Beyond these small groups, which arise out of pre-existing social networks, other large transnational networks assist in mobilization, if only by providing information through the internet.

What is true of social movements generally is true even more so of the violent clandestine groups that emerge from these movements. Pre-existing social networks make possible violent clandestine organizations because these organizations cannot recruit openly.[17] What is true of social movements and violent clandestine groups generally may be even truer of Islamic movements and violent clandestine groups. The relationship between social networks, dissidence, and violent groups is perhaps more pronounced in Islam than in other traditions. Mohamed himself recruited among family and friends and built his movement by relying on various pre-existing social networks. According to one scholar of Islam, the hostility that greeted Mohamed's teaching required that his movement operate at first as a "secret society." Pre-existing social networks, particularly his clan, allowed him and his followers to survive and their movement to grow. Mohamed's "political acumen and astute leadership" were also necessary, of course, but would not have been effective without pre-existing social networks within which to work. Ultimately, through his political work and military campaigns, Mohamed built a movement that transcended the social networks with which he began. Scholars have noted that within the Islamic world of the Middle East, the model of the Prophet remains effective. Both those who hold political power and those who aspire to it have used and continue to use and manipulate a variety of social networks to mobilize people and build their movements.[18]

One thing that characterizes these movements is an organizational style in which "lines of authority and responsibility tend to be fluid and blurred." The leader and his relationships are paramount but authority is not exercised through clearly established organizational lines. "Even when institutions such as formal bureaucracies have developed, the real business of ruling and political decision making has resided in personal networks."[19] In this light, the description of Hezbollah given earlier (a bureaucracy without rigid lines of control) does not represent the emergence of a new organization form[20] but the reliance on a centuries-old technique of mobilization.[21] We can see even in the emergence of the small groups that attacked the United States on 9/11 and the London metro system in 2005 a replication of the Prophet's methods, if not his intention. Non-violent Islamic groups also use these techniques, of course, (as do groups that are

not Islamic) but as noted above, such techniques are particularly useful for violent groups that cannot publicize what they are about. As has been the case for centuries, the leaders of these groups benefit, for example, from the traditional decentralized ways that Muslims give and distribute alms (the *zakat*).

Network forms of organization are particularly useful for mobilizing, then. Yet, if we consider networks from the perspective of those who recruit or build organizations and try to manage violent politics, we can see that these networks are problematic. Consider the case of the loosely structured group that carried out the attacks on the USS Sullivans (January 2000, which failed), USS Cole (October 2000), and the French tanker Limbourg (October 2002). Abd al Rahim al Nashiri was the leader of this group. He had the idea of attacking U.S. naval vessels and got bin Ladin to support it. He went to Yemen to organize. A veteran of fighting in Afghanistan, Nashiri contacted in Yemen other veterans or people with some relationship to bin Ladin. One of these was Waleed Mohammed Bin Attash (aka Khallad), an associate of bin Laden who had useful local knowledge and contacts. He bought the explosives for the group's operations locally, for example. Also assisting were others with connections to bin Ladin or Attash or through them to the Aden Islamic Army.

The group's first effort against the USS Sullivans failed when they put too much explosive in their boat and it sank. The second effort against the USS Cole worked. The third attack also succeeded in that they hit a target, the Limbourg, but it was a failure in a larger sense. When it occurred, the attack on the Limbourg was thought by analysts to be part of a strategy to attack the West economically by attacking its oil supply. In fact, the attack took place not as the result of a carefully planned strategy but because members of the group were upset that one of their acquaintances had been killed by the government of Yemen. The group lashed out at the first target it could find. Because the group struck a commercial vessel, insurance rates for the waters near Yemen increased substantially. This led to a decrease of traffic into the Yemeni port of Aden, which in turn cut the revenues of the Yemeni government. The government responded by cracking down on the group. Members and associates were arrested.[22]

The case of the Cole bombers shows the utility of networks for mobilization and recruitment. Nashiri's organizational work was made much easier by the fact that he could exploit pre-existing social networks in Yemen. Yet, those networks posed problems for Nashiri and bin Laden. Network connections do not cease to exist when individuals or nodes in them join a clandestine violent organization.[23] As we have discussed, one characteristic of networks is the freedom of the nodes to respond to their environment. While this makes the network adaptive, it also can lead to short-term failure, as we noted. This is illustrated in the case of the Cole bombing group. The network connections to an individual outside the group led the group to make an ill-considered operational decision that in turn led to the compromise not just of those directly involved in the Cole bombing but of many members of the larger network from which the bombing group was drawn. If an organization has fluid and blurred lines of control and authority, which has tended to be true of organizations in the Middle East, then it will be hard for leaders to impose strategic direction on the organization. We see another example of this in the letter of Ayman al-Zawahiri to the former leader of al

Qaeda in Iraq, Abu Musab al-Zarqawi. Zawahiri wrote that Zarqawi's actions were discrediting the al Qaeda movement but he had almost no control over Zarqawi to correct this problem.[24]

Not only will decentralized organizations have trouble with strategy, security is likely to be a problem for them as well. Pre-existing social networks are important for violent clandestine groups or those who want to start one because these groups are at risk. If an organizer wants to recruit someone, he must think about whether the person he approaches will turn him in. To minimize risk, organizers turn to those they trust and those they trust are in the social networks to which they belong. What constitutes a trustworthy relationship may vary from culture to culture,[25] but the need for such relationships in risky clandestine activity is universal. Again, however, these relationships do not simply cease to exist when the nodes or individuals that form them enter the violent clandestine group. If there is no central authority to impose discipline over communication and other operational and personal matters, then the pre-existing relationships may become, in fact, the bread crumbs that the authorities can follow to identify members of the clandestine organization.[26] A cell structure can enhance security, but only if the cells are compartmented; that is, if the links between the cells or nodes are kept to a minimum. To do this requires that discipline or authority exist over the cells and those in them. In other words, limited linkages between cells or nodes imposed and enforced by a higher or superior authority creates better security but it also crates a centralized organization (hierarchy) not a decentralized one (network).

Organizing through networks of trusted individuals also poses another problem for clandestine organizations. One way to understand this is through the analysis of Mark Granovetter.[27] Granovetter used the idea of strong and weak ties between people to think about different kinds of social relations and processes. He defined a strong tie as "a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services which characterize the tie."[28] Granovetter argued that the diffusion through society of ideas or innovations, for example, would occur more readily through weak ties than strong ones because if I talk to someone with whom I have only a weak tie, that person is likely to spend more time with other people than with me (our weak tie means we do not spend much time together) and therefore is more likely to spread an innovation or ideas to someone with whom I have not already spoken. The difficulty for those involved in clandestine activities is that the risk they operate under tends to lead them to contact or recruit people with whom they have strong ties.[29] This explains the intuition that clandestine groups will have a harder time spreading their ideas through society than groups that are not clandestine. Over time, it is even likely that the strong ties that members of at-risk clandestine groups rely on are among people already within the clandestine world. Thus, members of clandestine organizations have a tendency to end up talking amongst themselves and become increasingly isolated. As they become isolated and subject to "group think," they are more likely to misjudge their environment and make strategic blunders.[30]

We may say, therefore, with regard to violent clandestine organizations, that decentralized organizations or networks are best for mobilizing resources and

recruiting but that they are worse for security and strategic direction. On the other hand, centralized or hierarchical organizations are best for security and strategic direction but worse for mobilizing resources and recruiting. To get an optimal result, an organizer should try, to the degree possible, to modify his organization so that in a given environment it is situated on the centralized-decentralized continuum in such a way as to maximize the benefits and minimize the costs of each kind of organization. A key consideration will be the level of risk to the organization in the operational environment. Generally speaking, the more at risk the organization, the more centralized the organization should be.[31] The organizer's dilemma, however, remains that security and strategic direction, on the one hand, and mobilization of resources on the other are both necessary for organizers to succeed but that the former is best done through a centralized organization and the latter through a decentralized one.

STRATEGY

Strategic implications follow from the requirements of clandestine organizations and the structures that best serve these requirements. If we are dealing with a movement that has a historic and cultural tendency toward decentralized authority, we may surmise from the foregoing analysis that this movement will be better at mobilizing and recruiting than at maintaining security and imposing strategic direction.[32] It is the "network" functions of this movement that are its strength and its "hierarchical" functions that are its weakness. If we attack the network, we are attacking our opponent's strength, a dubious strategic choice. This is one way to understand why a strategy of killing or capturing high-value targets (i.e., key personnel in the movement) is unlikely to be decisive, although it may provide tactical advantages in some circumstances. We have managed to kill or capture a large number of al Qaeda leaders and drove the organization itself out of Afghanistan, but it has reconstituted itself in the Federally Administered Tribal Areas of Pakistan.[33] As in any organization, the leadership of a decentralized movement is the end product of a mobilization and recruitment process. In the case of the Islamic movements that we oppose, this process is deeply rooted in social structures and in historical and cultural traditions, sanctified by the example of the Prophet. It is powerful and effective. We are unlikely to defeat it by attacking it or its end product directly. Trying to do so would be a strategic error. Defeating the mobilization and recruitment process directly would require disrupting or destroying the structures and traditions through which it thrives. But this would require transforming large portions of at least the Middle East. Beginning that transformation was, ultimately, the purpose of invading Iraq.

We would compound this strategic error if we tried to make ourselves more networked on the assumption that it takes a network to fight a network.[34] In the strategic struggle between those who use terrorism and those who oppose them, the side that wins is generally the side that best controls and limits its use of force.[35] This is because terrorism and efforts to counter it are not a war or a battle of firepower. The struggle takes place amidst a population and over its opinions, rather than between two military forces separated from civilians. Civilian populations are sensitive to the violence inflicted on them. Unlike organized

military forces, they are not trained or equipped to function in the midst of violence. Winning the struggle over the opinions of civilian populations requires, then, that violence be controlled and limited. Centralized authority is best for controlling and limiting the use of force because centralized authority implies control over the nodes in an organization. Shortening the distance between the sensor and those who decide what to shoot, so that ultimately sensing and deciding to shoot occur in the same node and almost simultaneously, is an advantage only when bringing firepower to bear most efficiently is the key to success. That is not the key to success in our conflict with the al Qaeda movement. Because that movement's mobilization and recruitment functions are so good and we operate under strategic, political, and legal constraints on the use of force, control of the use of force and thus separating the sensor and the decision to shoot is to our advantage. For the same reason, the other constraints under which we operate, such as bureaucratic rules and regulations and respect for civil liberties, which have limited the application of the government's power over individuals, are also to our advantage. All of this requires that we fight decentralized authority, a network, with centralized authority, a hierarchy. In this sense, it takes a hierarchy to fight a network.[36]

A standard objection to reliance on centralized authority against a decentralized opponent is that the opponent will make decisions faster than the centralized authority and thus adapt more quickly. As we have argued, speed, agility, and adaptability are in fact advantages of a decentralized organization. Speed in decision making or adaptability is a good thing, however, as we have also argued, only if the decisions quickly made are well made. If bad decisions are made, making them quickly is not an advantage. There is at least one reason to think that centralized organizations may be better at long-term strategic thinking than decentralized organizations. A division of labor tends to be a characteristic of centralized organizations. This means that centralized organizations are likely to have people who specialize in strategic thinking and long-term planning and a command and control function that can distribute their thinking throughout the organization. Decentralized organizations will tend not to have specialists. Small nodes in particular will probably favor generalists, since they will not have the resources to support specialization. Not having people who specialize in strategic thinking and long-term planning, networks, we may surmise, will on average not be as good at these activities as centralized organizations. One might argue that networks, as transitory and shifting coalitions, do not need long-term planning or that their strength is that this "planning" is distributed throughout the network. But in this case, the network can no more be said to plan than a market can be said to plan the distribution of the resources that flow through it. In any event, networks that aspire to be something more than transitory (can transitory networks produce fundamental political change?) will suffer from their lack of a strategic planning capability. This will decrease the advantage that their adaptability offers them. On the other hand, the possibility of having a robust strategic planning capability helps offset the long-term risk of extinction that centralized organizations suffer from because of their impaired ability to sense their environment and change accordingly.

With regard to strategic planning, the liability that centralized organizations function under is not so much in doing such planning, although this too may be a problem if the planning must occur among several centralized organizations, as in implementing it. Centralized organizations are notorious for not playing well together. Hence, the long-standing concerns and complaints about the lack of cooperation and coordination among the organizations that make up the national security apparatus of the U.S. government.[37] Given the important advantages that centralized organizations provide, the solution to this problem of inter-organizational cooperation should not diminish those advantages. It should somehow produce a squared circle. It should respect the authority and turf consciousness necessary to produce effective military officers, diplomats, law enforcement and public health officers, firefighters, and spies, and the perspectives and initiatives they produce, which are partial, but necessarily and advantageously so (for example, military force is often at best only part of a solution but someone should specialize in advising about its use and employing it effectively). Simultaneously, the solution should limit this authority and turf consciousness sufficiently to produce integrated and effective responses to the problems we face. Simply decentralizing or networking is unlikely to do this. Despite the impossibility of squaring a circle, it has occurred at least once and might be made to happen more systematically.[38]

The analysis of terrorism and networks suggests some more specific strategies, both short- and long-term. If our ability to affect mobilization and recruitment is limited in the short-term, we are likely to face a prolonged struggle. In this case, we should emphasize limiting the damage to ourselves that might occur during this struggle. If we are likely to confront militant Islamists for some time, then we should do our best to make sure that they can do us as little harm as possible. The greatest damage they can do would come from their use of weapons of mass destruction, principally biological or nuclear weapons of some sort. Consequently, our greatest efforts should now be spent on stopping the proliferation of those weapons and the materials that can make them. The short-term payoff in security is likely to be greater from counterproliferation than from the effort to capture or kill high-value targets (HVT).

One might object that it is both necessary and possible to simultaneously target HVT and stop the proliferation of weapons of mass destruction. Indeed, targeting HVT might be one of the best ways to stop proliferation. In addition, effective measures against HVT and even the rank-and-file members of organizations will impair all the operational capabilities of those that threaten us. This is true but, as we have argued, the strength of our opponent's recruitment and mobilization networks poses a limit to the effectiveness of targeting HVT. We should also recognize that there is likely to be a tension between counterproliferation and targeting: counterproliferation puts a premium on multilateral cooperation; targeting HVTs will often require unilateral action that will make multilateral action on other issues more difficult to achieve.[39] At a minimum, we will face trade-offs between counterproliferation and targeting HVT. When we do, the analysis of our opponent's networks argues for putting the emphasis in the short-term on counterproliferation.

Putting an emphasis in the short-term on the multilateralism necessary for counterproliferation might also produce some long-term benefits. Lack of strategic command and control and thus the misuse of violence is one reason why the al Qaeda movement has not prospered, why it has lost support among the Muslim masses rather than gained it as it hoped to.[40] That the militant Islamists have not suffered or the United States not benefited more from this declining support is owing largely to the loss of support that the United States has also suffered over the past several years.[41] An emphasis on counterproliferation and multilateralism could be a significant part of the long-term effort to build support for the United States and its allies, especially if the conflicts in Iraq are resolved and the American presence there diminishes. The prospects for this approach look good. The same polls that reveal decreasing support for the militant Islamists show broad support, even in the Islamic world, for ideas (democracy, capitalism, and globalization) that are more congenial to the United States than to its enemies. Simply emphasizing these ideas is unlikely to be decisive, however. We may be engaged in a struggle for public opinion and thus in a war of ideas, but especially in such a war, actions speak louder than words. Remembering this and acting accordingly will allow the greatest possible opportunity for our opponents to suffer from the isolation, insecurity, strategic drift, and ultimate decline that violent clandestine political organizations are prone to.

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[1] Michael Kenney, *From Pablo to Osama: Trafficking and Terrorist Networks, Government Bureaucracies, and Competitive Adaptation* (University Park, PA: Pennsylvania State University Press, 2007), 149–152.

[2] National Commission on Terrorist Attacks upon the United States, *Final Report of the National Commission on Terrorist Attacks upon the United States* (New York: W.W. Norton & Company, 2004) 67, 250–252.

[3] Marc Sageman, *Leaderless Jihad: Terrorist Networks in the Twenty-First Century* (Philadelphia: University of Pennsylvania Press, 2008).

[4] The analysis in this paragraph is based on Joel M. Podolny and Karen L. Page, "Network Forms of Organization," *Annual Review of Sociology* 24(1998): 59–62.

[5] The analysis of the advantages and disadvantages of different organizational forms follows Francis Fukuyama and Abram N. Shulsky, "The 'Virtual Corporation' and Army Organization" (Santa Monica: RAND, 1997), 18–24.

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[7] Christian M. Averett, Louis A. Cervantes, Patrick M. O'Hara, "An Analysis of Special Operations Command–South's Distributive Command And Control Concept" (master's thesis, Naval Postgraduate School, 2007).

[8] Ann Scott Tyson, **"**New Plans Foresee Fighting Terrorism Beyond War Zones; Pentagon to Rely on Special Operations," *Washington Post*, April 23, 2006, A.01.

[9] Jody Williams, "David with Goliath," *Harvard International Review* 22 (Fall 2000), 88–89.

[10] Fukuyama and Shulsky, "The 'Virtual Corporation' and Army Organization," 52.

[11] John Arquilla, David Ronfeldt, Michele Zanini, "Networks, Netwars, and Information Age Terrorism," in Ian O. Lesser, Bruce Hoffman, John Arquilla, David Ronfeldt, Michele Zanini, *Countering the New Terrorism* (Santa Monica: RAND, 1999), 62.

[12] This account is based on Mitchell D. Silber and Arvin Bhatt, "Radicalization in the West: The Homegrown Threat," http://sethgodin.typepad.com/seths_blog/files/NYPD_Report-Radicalization_in_the_West.pdf; Sageman, *Leaderless Jihad*; and research carried out at the Center on Terrorism and Irregular Warfare, Naval Postgraduate School, Monterey, CA.

[13] For example, Kevin Sullivan and Mary Jordan, "Suspects in Britain Bomb Plot Linked by Family, School, Work," *Washington Post*, July 8, 2007, A12.

[14] See the analysis of Clark McCauley, "Psychological Issues in Understanding Terrorism and the Response to Terrorism," in *The Psychology of Terrorism, Volume III, Theoretical Understandings and Perspectives* edited by Chis E. Stout (Westport, Connecticut: Praeger, 2002), 15–16.

[15] Florence Passy, "Social Networks Matter. But How?" in eds. Mario Diani and Doug McAdam, *Social Movements and Networks: Relational Approaches to Collective Action* (Oxford: Oxford University Press, 2003), 23–27.

[16] Silber and Bhatt, "Radicalization in the West: The Homegrown Threat," 16.

[17] Passy, "Social Networks Matter. But How?" 35. For examples from American experience, see Christopher Hewitt, *Understanding Terrorism in America: From the Klan to al Qaeda* (New York: Routledge, 2003), 19–20, 46, 53–57, 61–62, 77–78. Mark E Stout, Jessica M. Huckabey, John R. Schindler, with Jim Lacey, provide evidence that the al Qaeda movement understands this issue, *The Terrorist Perspectives Project: Strategic and Operational Views of al Qaida and Associated Movements* (Annapolis, MD: Naval Institute Press, 2008), 198, 205, 207, 210.

[18] James A. Bill and Robert Springborg, *Politics in the Middle East,* 3rd ed. (New York: HarpersCollins Publishers, 1990), 139–151, 141, 144; Guilain Denoeux, *Urban Unrest in the Middle East: A Comparative Study of Informal Networks in Egypt, Iran, and Lebanon* (Albany, NY: State University of New York Press, 1993), especially 209–210; Quintan Wiktorowicz, ed., *Islamic Activism: A Social Movement Theory Approach* (Bloomington, IN: Indiana University Press, 2004); and D. S. Margoliouth, *Mohammed and the Rise of Islam* (New York: G. P. Putnam's Sons, 1905), 112–117.

[19] Bill and Springborg, *Politics in the Middle East*, 167, 161.

[20] Ian O. Lesser, Bruce Hoffman, John Arquilla, David Ronfeldt, and Michael Zanini, *Countering the New Terrorism* (Santa Monica, CA: RAND, 1999), 39–41.

[21] Consider what Denoeux, *Urban Unrest in the Middle East*, 188 reports about the connection between Hizbollah's organizational and operational style and "the structure of religious authority" in the Shiite academies of Najaf, Iraq.

[22] This account of the Cole group draws on the *Final Report of the National Commission on Terrorist Attacks upon the United States* (New York: W.W. Norton & Company, 2004), 152–153 and research at the Center on Terrorism and Irregular Warfare, Naval Postgraduate School, Monterey, CA.

[23] Bonnie Erickson, "Secret Societies and Social Structure," *Social Forces* 60 (September, 1981), 196; Kenney, *From Pablo to Osama*, 34.

[24] Ayman al-Zawahiri to Abu Musab al-Zarqawi http://www.globalsecurity.org/security/library/report/2005/zawahiri-zarqawi-letter_9jul2005.htm.

[25] Erickson, "Secret Societies and Social Structure," 195.

[26] Kenney, *From Pablo to Osama*, 98–99; Vernon Loeb, "Clan, Family Ties Called Key to Army's Capture of Hussein," *Washington Post*, December 16, 2003, 27.

[27] Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78 (May, 1973): 1360–1380.

[28] Granovetter, "The Strength of Weak Ties," p. 1361.

[29] Erickson, "Secret Societies and Social Structure," 195.

[30] Donnatella della Porta, *Social Movements, Political Violence, and the State: A Comparative Analysis of Italy and Germany* (Cambridge: Cambridge University Press, 1995), 113-135 describes this process of becoming isolated and making strategic blunders.

[31] Erickson did not reach this conclusion, although her analysis leads to it, because her small sample of at risk clandestine organizations contained some that did not become more centralized as the security environment became more threatening. Erickson, "Secret Societies and Social Structure," 202–203.

[32] This is apparently true of the al Qaeda movement. Stout, et al, *The Terrorist Perspectives Project*, 137.

[33] J. Michael McConnell, "Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee 27 February 2008," 5, http://armed-services.senate.gov/statemnt/2008/February/McConnell%2002-27-08.pdf.

[34] John Arquilla and David Ronfeldt, *Networks and Netwars: The Future of Terror, Crime and Militancy* (Santa Monica: RAND, 2001), 15.

[35] Max Abrahms, "Why Terrorism Does Not Work," *International Security* 31 (Fall 2006): 42–78, and Ivan Arreguín-Toft, *How the Weak Win Wars: A Theory of Asymmetric Conflict* (Cambridge: Cambridge University Press, 1995) offer theoretical explanations for this point. Thomas R. Mockaitis, *British Counterinsurgency, 1919–1960* (New York : St. Martin's Press, 1990) offers historical evidence for it, as does Colonel Mark Cancian, "Capitalizing on Al Qaeda's Mistakes," *Proceedings* (U.S. Naval Institute) 134 (April, 2008), http://www.usni.org/magazines/proceedings. See also the views of Jihadists on this point, and others raised in this paragraph, in Stout, et al., *The Terrorist Perspectives Project*, 50–55, 126, 128, 137, 138, 141, 151, 211.

[36] I am indebted to Chris Bellavita for suggesting this formulation and for other comments on this paper. His thoughtful assistance should not be construed as an endorsement of the ideas or arguments it contains.

[37] The need for interagency cooperation was apparent, and concerns and complaints audible, at least as early as the 1960s. See David Tucker, ""The RMA and the Interagency: Knowledge and Speed vs. Ignorance and Sloth?" *Parameters* 30 (Autumn 2000): 66-76.

[38] For one occasion when the squared circle happened, see David Tucker, *Skirmishes at the Edge of Empire: The United States and International Terrorism* (Westport, CT: Praeger, 1997), 125–130. For a more systematic way of doing it, consider Christopher J. Lamb and Irving Lachow, "Reforming Pentagon Strategic Decisionmaking" *Strategic Forum*, No. 221 (Washington, DC: Institute for National Strategic Studies, July 2006) and the *Project on National Security Reform*, http://www.pnsr.org/.

[39] Stephen Biddle develops this point at length in "American Grand Strategy After 9/11: An Assessment" (Carlisle, PA: Strategic Studies Institute, April, 2005)

[40] Stout, et al., *The Terrorist Perspectives Project*, 120–123, 50–55. For an example of relevant polling, see, Andrew Kohut and Richard Wike, "All the World's a Stage," *The National Interest Online*, May 6, 2008, http://www.nationalinterest.org/PrinterFriendly.aspx?id=17502.

[41] Kohut and Wike, "All the World's a Stage."